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A STRUCTURAL, LINGUISTIC APPROACH TO BILINGUAL DICTIONARIES WAS DESCRIBED. DETAILED DISCUSSIONS WERE INCLUDED FOR USES OF MORPHEMES, MORPHEMIC SEQUENCES, PHONEMES, PHONETIC TRANSCRIPTIONS, AND ALLOPHONES. THIS REPORT IS ONE OF A SERIES OF 13 PAPERS PRESENTED AT A CONFERENCE ON LEXICOGRAPHY, INDIANA UNIVERSITY, NOVEMBER 11-12, 1960. (GC)

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STRUCTURAL LINGUISTICS AND BILINGUAL DICTIONARIES

Kemp Malone

The usual bilingual dictionary is made up of two vocabularies, one for each language, and its primary purpose is to help the user in his task of translating from one of the languages to the other. If you want to say something in a foreign tongue and cannot think of some word or phrase you need to express your thought in that tongue, you turn to a bilingual dictionary, look up the word or phrase that would express your meaning in your native tongue, and hope that the dictionary will give you the corresponding word or phrase in the other tongue. If you find what you are looking for you will have done a bit of translating from native to foreign speech. Or you may be reading a text in the foreign tongue and come upon an expression that you do not understand. In this case you look up the expression in the bilingual dictionary in the hope that you will find it duly interpreted in your native tongue. Here again we have translation but it goes the other way, from foreign to native speech. A bilingual dictionary, then, may be called a two-way translation aid.

Bilingual dictionaries have other functions besides, functions definitely subordinated to their main one of translating but important nevertheless. I will mention first their function as a guide to the pronunciation. Information on this subject appears, as a rule, both in the front matter and in the individual entries in the body of the book. The entries give the phonetic or phonemic composition of the entry words as said in isolation and with full stress, though sometimes weak as well as strong variants are entered. In an English-French, French-English dictionary the words entered are commonly respelled to indicate their pronunciation. In an English-Italian, Italian-English dictionary only the English entry words would be respelled in this way; for the Italian words it is thought to be enough to mark the stressed syllable of words not stressed on the penult; to distinguish

between close and open stressed vowels where these are represented by the same symbol; and to indicate the surd or vibrant value of ambiguous consonantal signs. In the front matter it is customary to outline the spelling systems of the two languages; that is, the relation between the written and spoken units. If there is a one-to-one correspondence, only this fact needs to be pointed out, but often if not usually a much more complex system of correspondences exists and must be made clear. In any case the sounds of the languages are commonly presented in terms of the conventional spelling, together with some description of how the sounds are made and some comparison of the two sound-systems, each in terms of the other.

Again, bilingual dictionaries usually give a certain amount of information about affixation, inflection, and classification. In the entries the part of speech of the entry words is commonly marked, and the gender of words that have it may also be marked. If the entry word is subject to inflection, some clue to this is usually added, as principal parts of verbs and the name or number of the declension that a noun belongs to. Irregular and anomalous forms are often entered for themselves, with cross-reference to the appropriate head-form. In the front matter one may find a list of the commoner suffixes (less often, of prefixes too) and an outline of the inflectional system of each language dealt with in the dictionary. In a good many bilingual dictionaries much is made of irregular verbs, sometimes as part of the front matter, sometimes in a special appendix. Here such verbs are listed in full, and the irregular forms of each verb are entered against the head-form.

Finally, a bilingual dictionary may include historical information, such as the etymology of entry words, words marked obsolete, etc.; dialectal information, as words marked local or regional or otherwise restricted in currency; and stylistic information, as distinctions in levels of usage.

What have the structural linguists to say about the bilingual dictionaries as I have described them? In this paper I speak only for myself. Others in attendance will doubtless be able to add to my observations; they may even be able to subtract from them. I will begin with the body of the dictionary, the entries themselves. In the conventional bilingual dictionary the entries are devoted to words and phrases, chiefly individual words but with some attention to phrases as well. If the dictionary were remodeled to conform to structural principles the entries would be devoted to morphemes and morphemic sequences and taken together would constitute what it is now fashionable to call an inventory, or rather two inventories, one for each language.

A morpheme, or minimal unit of meaning, may be a whole word or part of one. If it is a word it is called a free form; if part of a word, a bound form. Thus, in asparagus the boundaries of word and morpheme coincide, giving a free form, but in likemindedness we have a word made up of four morphemes and each of these is a bound form. Some morphemes never occur except as bound forms: e.g. the last two morphemes of likemindedness. Others may occur bound or free, as the first two morphemes of likemindedness. Still others occur only as free forms; that is, as monomorphemic words. In English the definite article is an example of a morpheme that is always a free form, but in the Scandinavian languages the article may be a bound form. This difference raises a number of questions: e.g. Are proclitics and enclitics free or bound? ~~Is the English article a proclitic?~~ In classifying morphemes as free or bound are we to go by the conventional writing and spacing of words in the two languages with which our bilingual dictionary is concerned? I will not try to answer these questions but I submit them to you for your consideration. In general, a morpheme that occurs only as a word not subject to inflection, affixation, or composition is always a free form. On the face

of it, the English definite article conforms to this description. What about asparagus? In theory it would be possible to inflect this word but in practice the word is not inflected and our dictionary would have to classify it accordingly. We cannot be so sure about composition. Let us consider the case of asparagus soup. In English this morphemic sequence is written as two words and asparagus here as elsewhere is a free form. Not so German Spargel in the corresponding sequence Spargelsuppe, which is written as one word. Parallel cases are to be found by the thousand. Is this difference between English and German a mere matter of orthography or does it go deeper? Another question that I will not try to answer.

Luckily we do not have to solve such problems in order to make a bilingual dictionary that conforms reasonably well to structural linguistic principles. The main thing is to make the morpheme, not the word, our unit in determining what items to include in the inventory. This means that we should have entries for the morphemes that occur only as bound forms as well as for those that occur as free forms. Phrases, and words made up of two or more morphemes, would both come under the head of morphemic sequences and would be entered much as they are now. The main difference, then, would be that inflectional endings and affixes would be systematically entered in the body of the book. The problem children would be morphemes like English stand/stood and self/selv-, where unwelcome complications arise. Let us look at these for a moment.

The verb stand, preterit and past participle stood, has two built-in markers which for the moment we may call infixes. One infix, -an-, marks presentness; the other, -oo-, pastness. But these infixes are more than markers of time; they also make part of the morphemes stand and stood respectively. Without them these morphemes become meaningless and thus, by definition, are no longer morphemes at all. We cannot describe stand as a

word made up of two morphemes, the verb st..d and the present-marking grammatical infix -an-. The word stand is monomorphemic, even though the -an- part of it does double duty by having a present-marking function besides. This -an-, then, is not a true infix but an integral part of the morpheme stand. That is to say, it cannot be abstracted from stand without destroying the morpheme of which it makes part. Here it differs fundamentally from true grammatical morphemes like the final s of stands. It will not do, therefore, to set up a present-marking morpheme -an- and a past-marking one -oo-. These markers of time are not morphemes but morphemic parts and we can only say that each has a special function within the morpheme to which it belongs, besides making part of that morpheme. To put the matter a bit differently, our verb consists of two morphemes, stand and stood, each of which is temporally marked, and one of these morphemes, stand, by virtue of its present-time marking, is subject to combination with the grammatical morphemes -s and -ing. In our dictionary both stand and stood should be entered, but the entry stood may reasonably be reduced to a mere cross-reference and all the inflectional forms may properly be given in the entry stand. The morphemes -s and -ing, which combine not only with stand but also with a multitude of other verbs, rate entries of their own in which their function is explained.

The case of self/selv- is somewhat different. Self may be bound or free, whereas selv- is always bound, occurring only before the plural-marking morpheme -es, a position in which self never occurs. We may say (1) that self and selv- are two closely related morphemes, the one being a singular, the other a plural, but the plurality of selv- is dependent on the plural-marking morpheme -es with which it alwyas combines. Or we may say (2) that self and selv- are allomorphs of a morpheme that ends in /v/ before the plural-marking morpheme -es but in /f/ elsewhere. The second way of looking at the matter is simpler and, I think, more satisfactory. If the two forms are only

allomorphs of one morpheme, they should be treated in a single entry and the entry-form should be self/selv- (not simply self). But in a bilingual dictionary it might be well to have an entry selves, explained as the plural of self, in addition to the entry self/selv-, as a concession to human weakness. Allomorphs distinguished in speech but not in conventional writing (e.g. the various spoken forms of either) may be taken up in one entry, as scientific rigor prescribes, without sacrifice of the practical convenience of the user of the book. Such an entry, of course, would include transcriptions of the allomorphs and would specify the distribution of each.

This brings us to the sounds of the languages, and at once the question arises, how these sounds are to be described and represented. In structural linguistics, of course, the phoneme is the thing, and to any structuralist the necessity of working out and presenting the system of phonems characteristic of a language goes without saying. I must confess that my own chief interest lies here. But phonemics must be built on phonetics, and in learning a language the phonetic nuances make the great difference between the pronunciation of the beginner and that of the master. That is to say, phonetics is essential, both in theory and in practice, if you are to know your language properly. Not only the phonemic but also the phonetic side of pronunciation, then, must be dealt with in our bilingual dictionary. If this be granted, how should we proceed? The two sides are best combined, I think, by bringing in phonetics in allophonic terms. The front matter should include a systematic presentation of the phonemes of each language, and under each phoneme its chief allophonic types should be described with phonetic precision.

The spelling system of many languages is phonemic in principle, though nearly always faulty from the start and made worse in the course of time by traditional spellings that reflect etymological learning true and false, past rather than current speech, and the like. It is a matter of practical

importance in a bilingual dictionary to bring out the correspondences between the spelling system and the system of phonemes, and such correspondences have scientific interest besides. Certainly I for one am far from objecting to an analysis of conventional spelling and a comparison of it with phonemic transcription as part of the front matter of a bilingual dictionary. I reckon it important, however, that the user of such a dictionary be encouraged to learn the phonemic approach, and it does not make for his linguistic enlightenment to have the material presented as it is in too many dictionaries, where he is simply told what the values of the letters are in the conventional spelling. A bilingual dictionary should give its users at least a glimpse of linguistic science, and this can best be done by ordering and presenting the material in a scientific way, however modest the undertaking.

Instead of beginning with a, therefore, and going on to b,c,d, etc., one ought to begin by explaining what phonemes are and making clear the standard method of isolating them, the setting up of minimal pairs. Next allophones should be explained, and after them the syllable. This would lead naturally into a grouping of phonemes in terms of their function as members of syllables. From this one could go on to groupings of other kinds: vibrants vs. surds (or, if you will, voiced sounds vs. voiceless sounds), stops vs. patents, etc. You would now be ready to take up the individual phonemes: first, the stops, including affricates (i.e. phasal stops) and trills (i.e. intermittent stops); then the lateral and nasal patents; and finally the medial patents. These last fall into two main classes, straits and broads. The straits may be rough (close fricatives) or smooth (open fricatives and semivowels); the broads include vowels, glides, and breathings. The so-called primary phonemes are now behind you and it is time to take up such matters as length, stress, pitch, and boundary phenomena, brought out in conventional writing, if at all, by a variety of marks: macron, accents,

hyphen, comma, period, interrogation point, and exclamation point.

In the foregoing I have said nothing about the notation to be used. The alphabet of the International Phonetic Association (IPA) is basic for phonetic transcription but it is commonly modified more or less from language to language to make it fit better the needs or wishes of the various transcribers. I have myself worked out a system of phonemic transcription for English which I think well of, but I will not present it here. For a full discussion of it, see my Studies . . . in Current Speech (Copenhagen 1959), pp. 226-267. The conventional orthography of languages that have a good spelling system (as Italian, Spanish, and Turkish) can be used as a basis in phonemic writing; with a little modification it serves admirably. In general, it is unwise to impose any preexisting system of phonemic or phonetic transcription on your bilingual dictionary. The needs of such a book are best determined after a thorough study of the two languages with which it deals.

Both phonemic and phonetic transcriptions must be used, of course, in the combined phonemic and phonetic analysis that makes part of the front matter in the bilingual dictionary. But what of the body of the book? Should the entry-forms be systematically transcribed and, if so, should the transcriptions be phonetic or phonemic? In my opinion practical considerations should govern here. I will mention two cases and I welcome discussion of them: (1) the so-called hollow /ɨ/ of English, and (2) the quantity of /i/ in word-pairs like English beat /bit/ vs. bead /bid/. Should the hollowness of the ll in hill and the greater length of the ea in words liked bead (as compared with beat) be brought out in the transcription? These features are allophonic, not phonemic, and they are easy to note in phonetic transcription but cannot be noted in a transcription that is phonemic. The student should of course be told about such allophonic features in the discussion given in the front matter. Is that enough, or should he be reminded of these

allophones in the transcription of the individual entry-forms in the body of the book? This is an important practical question, and it should be answered in the light of the experience that teachers and students have had in using bilingual dictionaries. A good general principle to follow might be this: make the transcription phonemic for all entries except those where the user of the book may be expected to go seriously wrong unless he is given phonetic rather than merely phonemic guidance. And naturally the two systems should be sharply distinguished in the usual way, phonetic transcriptions being set off by square brackets, phonemic ones by diagonal lines.

We come now to morphology, or the analysis of utterances into their minimal units of meaning. In the entries of the dictionary devoted to single morphemes the entry-form itself represents such an analysis, of course, but all morphemic sequences (i.e. phrases and pleiomorphemic words) that are entered need to be analyzed into their constituent morphemes. This is done by marking the morphemic boundaries, so far as they are not already shown in the conventional writing by spacing or hyphenation. The hyphen is the obvious mark to use for this purpose. Morphological analysis enables one to determine the systems of inflection, derivation, and composition characteristic of the vocabulary of the language in question. Limitations of space make it impossible to present these systems at length and in full in a bilingual dictionary, but an outline that brings out the main features of each system would be a valuable addition to the front matter of the book.

Vocabulary entries are commonly classified in inflectional terms, if possible. And since an inflection has the function of indicating the relation of the inflected item to another (or others) in connected speech, classification by inflection takes us into syntax. Dictionaries in the nature of the case deal little with syntax, but it is customary to include in the entries a classification of the entry-forms by parts of speech, and here structural

linguistics can have something to say. To the extent that the classification rests on inflectional distinctions, it is structurally valid. Thus, in English nouns and verbs have distinctive inflections and can therefore be set up as separate form-classes or parts of speech, and if we reckon the comparison of adjectives and adverbs as a kind of inflection we can set up a third class based on this feature. In some languages adjectives are sharply distinguished from the adverbs by the fact that they are declined as well as compared whereas adverbs are only compared. This was once true of English too but is no longer so. Pronouns are another form-class that can be set up by virtue of distinctive inflectional features, though in English this holds to a limited extent only. Words not marked as nouns, verbs, adjectives, or pronouns by inflection but behaving like members of these form-classes in connected speech are commonly classified accordingly. Thus, asparagus is classified in English as a noun despite its want of inflection, because in syntactical structures it behaves like a noun. Uninflected words that do not go into any of these classes by virtue of their behaviour are lumped as particles. The subclasses of particles can be distinguished only in terms of their syntactical functions. Another formal device for marking the form-class to which a word belongs is the suffix. Thus, -ness is a noun-marking, -ize a verb-marking suffix in English. Many English adverbs are marked as such by adding the suffix -ly to the corresponding adjective, but this marker is not too dependable, since a word so marked may be an adjective. Thus, both sick and sickly are adjectives in English.

In nearly everything that I have said in this paper I have had inflected languages in mind. I am not competent to deal with languages that have no inflections, let alone those that have no words. In the discussion of our theme to which you are now invited to contribute, I hope that much will be brought out that I have only touched upon or neglected altogether. Our time is limited but our topic is as wide as the world.